

Hazardous Waste Management Commission Report

January through March 2011

Quarterly Report



MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

Sampling at the Ammon Painting Company (former).

Hazardous Waste Management Commissioners

James T. "Jamie" Frakes, Chair

Andrew Bracker, Vice-Chair

Elizabeth Aull

Michael R. Foresman

Charles Adams

Deron Sugg

"The goal of the Hazardous Waste Program is to protect human health and the environment from threats posed by hazardous waste."

For more information

Missouri Department of Natural Resources

Hazardous Waste Program

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Missouri Department of Natural Resources
Hazardous Waste Program

March 2011 Program Update

Commissioners,

One nice feature of these reports is the way we can visually represent some of the issues and facilities we deal with. But sometimes even the pictures don't tell the whole story.

For example, make sure to look at the pictures in Superfund's portion of this report, under the Natural Resources Damages article. These are photos from a visit to areas in Missouri's Viburnum Trend as part of Natural Resources Damages training. You can see a bit of snow on the ground in one of the photos.

Yes it snowed and yes, it was cold. And for anyone that has been to Doe Run Buick, or is familiar with that area in Iron County, you know the roads aren't the best for winter weather. But, we had a good visit, learned a lot and, with accumulations increasing, made it home safely.



On behalf of the Hazardous Waste Program, I would like to thank Doe Run for, even in inclement weather, welcoming and showing us around their facility.

Although it is much more than just a hazardous waste issue, the Hazardous Waste Program has led the department's Natural Resources Damages efforts. And I'm proud that thanks to the efforts of Natural Resources Damages Team, other programs, divisions and agencies come to this program for guidance and advice on Natural Resources Damages issues.

Missouri has many unique challenges, one of which is detailed in the Federal Facilities' section of the report. The Lake City Army Ammunition Plant manufactures ammunition for the military and is the only government-owned, contractor-operated facility of its kind. As with many of Federal Facilities' sites, this one is big – nearly 4,000 acres – and has many environmental issues stemming from the industrial and test-firing activities.

Permits covers how they handle the issue of habitual violators – those that routinely violate solid or hazardous waste management laws. What do you do if an applicant applies for a new hazardous waste permit in Missouri and they have dozens of violations from other states? They explain the process.

And Tanks reports the final American Recovery and Reinvestment Act report has been submitted to EPA. The whole project was a major accomplishment. Other states had to return funding because they were not able to obligate monies for sites within EPA's tight timeframe. Our team was able to quickly identify sites that would benefit from the funding and get in and start work.

Below is a picture of those in the Hazardous Waste Program that helped make this project such a success. You can see this was truly a team effort.

Sincerely,

David J. Lamb
Hazardous Waste Program

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Commission meetings live on the Web

Starting in March, the department began live streaming (offering live video and audio over the Web) of commission and other types of meetings. These meetings are also being archived on the department's YouTube channel at youtube.com/missouridnr.

Streaming these meetings increases transparency and allows more Missourians an opportunity to better understand environmental issues facing the state and the decisions made to address these issues. With this technology, anyone with an Internet connection would be able to access the live broadcast through their computer or smartphone and be able to see and hear the proceedings of these meetings.

In cases where multiple commission meetings are occurring at the same time, one of the meetings will be live streamed and the other(s) will be video recorded. All of the meetings will be archived online.

Archived commission videos are listed online at www.dnr.mo.gov/videos/archive-meetings.htm.

Meetings are streamed live from dnr.mo.gov/videos/live.htm.

Hazardous Waste forum reconvenes

After nearly a year without a meeting, the Hazardous Waste Forum was reinstituted and met on Feb. 7.

An email announcing the meeting was sent to the program's forum listserv, which contains approximately 400 members representing the regulated community, environmental groups and others interested in hazardous waste issues.

The program also asked those on the email list to submit topic suggestions for the Feb. 7 meeting. Some of the topic suggestions received included:

- Start up a Clean Closure Requirements committee to develop consistent regulatory requirements/policy.
- Status of Hazardous Waste Fees.
- Discuss the "accepted" electronics to the E-scrap rule.
- Adoption of any federal regulations by the state on the horizon.
- Container management issues.

All of these items, and the others received, were discussed at the Feb. 7 meeting.

The Hazardous Waste Forum continued discussion about many of these topics at a March 3 forum meeting.

Documents from these two meetings, and from meetings held since March, are posted online on the forum Web page at dnr.mo.gov/env/hwp/forum/forum.htm.

Hazardous waste forums provide the opportunity for stakeholders to have a dialog with the staff and management of the Hazardous Waste Program. The program believes this dialog is essential to a good working relationship, where others' positions on issues can be understood and where the program can make better informed decisions about rules, regulations and policies.

Those interested in receiving updates about upcoming forum meetings can sign up to join the listserv at dnr.mo.gov/env/hwp/forum/hwflistserv.htm.

Grants and Cooperative Agreements

Sixty-nine percent of the employees in the Hazardous Waste Program's fiscal year 2012 core operating budget are funded by federal dollars. The program uses federal funding provided through on-going environmental grants and cooperative agreements in each one of its sections. Federal funding is continually pursued through these agreements. The program also seeks out and applies for new federal funding opportunities.

The Hazardous Waste Program currently receives federal funding through the following agreements:

- **EPA Brownfields 128a Cooperative Agreement**
Missouri's State Response Program – Goal is to establish and enhance various elements of the Missouri Brownfields Response Program and the Voluntary Cleanup Program to address contaminated sites and return these sites to productive use.
- **U.S. Department of Defense State Memorandum of Agreement Cooperative Agreement**
The Department of Defense and State Memorandum of Agreement/Cooperative Agreement Program provides funding for state technical oversight activities intended to expedite environmental restoration and help ensure compliance with applicable state laws in remediation of Department of Defense installations and Formerly Used Defense Sites.
- **U.S. Army Corps Of Engineers Formerly Utilized Sites Remedial Action Program Cooperative Agreement**
Provides funding for review and technical oversight related to remediation of multiple sites in the St. Louis area that were radiologically contaminated through processing, transportation, storage and management practices from 1942 to 1973.
- **U.S. Department of Energy Weldon Spring Long-term Stewardship and Maintenance Agreement**
Provides funding for review and technical oversight related to the long-term surveillance and maintenance of the Weldon Spring Site.
- **U.S. Department of Energy Kansas City Agreement in Principal**
Provides funding for review and technical oversight of monitoring and emergency activities at the Kansas City Plant.
- **U.S. EPA Brownfields 104k Petroleum Assessment Grant**
Provides funding for Phase I and Phase II site assessments at petroleum contaminated sites.
- **U.S. EPA Brownfields 104k Hazardous Substance Assessment Grant**
Provides funding for Phase I and Phase II site assessments at sites contaminated with hazardous substances.
- **U.S. Air Force Minuteman II Long-term Stewardship Agreement**
Provides funding for oversight activities related to former Minuteman II sites to maintain institutional and engineered controls designed to prevent exposure to residual contamination at former Minuteman II missile sites.
- **U.S. Department of Agriculture Grain Bin Storage Sites Agreement**
Provides funding for review and technical oversight of the Farm Service Agency activities related to the investigation, characterization or other agreed-upon actions or decisions at former grain bin storage sites.

Missouri Department of Natural Resources - Hazardous Waste Program

Budget and Planning Section

Budget and Planning

- **Missouri Army National Guard Statement of Work**
Provides funding for review and technical oversight of environmental projects at Missouri Army National Guard sites as approved in the statement of work and in the notices to proceed.
- **U.S. Coast Guard Agreement**
Provides funding for review of the Environmental Baseline Study Report for the former base at St. Louis.
- **U.S. EPA Leaking Underground Storage Tank Corrective Action Cooperative Agreement**
Provides money for overseeing and enforcing corrective action taken by a responsible party, who is the owner or operator of the leaking underground storage tanks. The purpose of the grant is also to provide money for cleanups at underground storage tank sites where the owner or operator is unknown, unwilling or unable to respond, or which require emergency action.
- **U.S. EPA Leaking Underground Storage Tank Preventative Cooperative Agreement**
Provides money to implement prevention and cleanup programs to prevent, detect and clean up releases from federally-regulated underground storage tanks.
- **U.S. EPA Superfund Consolidated Cooperative Agreement**
Provides funding to enable the department to continue their active participation in response to actions at hazardous waste sites, provide oversight of hazardous waste remedial actions and to continue to build their state hazardous waste program capacity.
- **U.S. EPA Valley Park Cooperative Agreement**
Provides financial support for the department to administer, oversee and provide active participation at the Valley Park TCE (excavation trichloroethylene) site in support of EPA's goal to preserve, clean-up and restore land.
- **U.S. EPA Ellisville-Bliss Cooperative Agreement**
Provides financial support for the department to administer, oversee, and provide active participation at the Ellisville Superfund site in support of EPA's goal to preserve, clean-up and restore land.
- **U.S. EPA Performance Partnership Grant - Resource Conservation and Recovery Act and Toxic Substances Control Act Polychlorinated Biphenyl Funding**
Provides the department funding for continued support of the state delegated program activities that address clean air, clean water, toxic substances compliance monitoring and hazardous and solid waste.

Missouri Department of Natural Resources - Hazardous Waste Program Brownfields/Voluntary Cleanup Section

The Missouri Department of Natural Resources issued certificates of completion for 11 Brownfields/Voluntary Cleanup Program sites during October through December.

Brownfields are real property, the expansion, redevelopment or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant or contaminant.

Through the Brownfields/Voluntary Cleanup Program, private parties agree to clean up a contaminated site and are offered some protection from future state and federal enforcement action at the site in the form of a "No Further Action" letter or "Certificate of Completion" from the state.

AT Still University Dental Clinic Development - Kirksville

The Missouri Department of Natural Resources' Brownfields/Voluntary Cleanup Program issued a Certificate of Completion for the AT Still University Dental Clinic Development site, located at 400 W. Jefferson St. in Kirksville. Historically, the west portion of the property was used for railroad tracks, coke storage, a feed mill and warehouse and veterinary office. The east portion of the site previously had railroad tracks and a variety of commercial and residential properties, including an auto wrecking/junk yard.

Site investigations revealed arsenic and lead in soil samples at concentrations above the Missouri Risk-Based Corrective Action default target levels. The samples were also analyzed for pesticides, PCBs and polyaromatic hydrocarbons; however, the levels were either non-detect or below the associated default target levels. Soil remedial activities included excavation and disposal of soils from the areas that exceeded residential use Missouri Risk-Based Corrective Action (MRBCA, June 2006) standards. The remediation was sufficient to attain concentrations less than the background level so no further action is necessary to meet unrestricted use of the site. The department determined the site is safe for its intended use.

AT Still University intends to develop the property into the AT Still University Dental Clinic.

North Park - HPOD Common Ground - Berkeley

The Missouri Department of Natural Resources' Brownfields/Voluntary Cleanup Program issued a Certificate of Completion for the North Park - HPOD Common Ground site located at 8642 Evans Ave. in Berkeley. The HPOD Common Ground site is located in the southeast corner of the HPOD site, which is located in the southern end of the North Park development near the intersection of North Hanley Road and Evans Avenue. The majority of the HPOD site previously achieved a certificate of completion on Nov. 5, 2009. Two parcels (8714 Garvin Ave. and 8674 Garvin Ave.) were excluded from the previous certificate of completion.

Trenching activities across the entire HPOD site identified buried construction type waste, like concrete, mixed with "trash" (e.g., plastic, metal, wood and tires) in a former ravine located near the center of the property. This area primarily covered the above-mentioned parcels that were excluded from the previous certificate of completion. North Park Partners, LLC, applied to the Brownfields/Voluntary Cleanup Program for oversight of remedial action.

Environmental site assessments revealed the following contaminants of concern in soil or groundwater: on-site buried debris, primarily concrete comingled with "trash". Buried debris was excavated, segregated and properly managed. Trash was removed and disposed as special waste. Construction and demolition debris is considered "clean fill" and was stockpiled on-site for future on-site reuse. Concentrations of chemicals of concern in soil were below applicable risk-based target levels. To protect future workers and occupants at the property, the risk assessment recommended restricting land use to non-residential, prohibiting installation of groundwater wells and implementing a soil management plan for land disturbance activities. The department determined the site is safe for its intended use.

Current plans for the site include an office/warehouse and distribution facility for Express Scripts.

River Roads Shopping Center Main Mall, Lots A, 1A, D - Jennings

The Missouri Department of Natural Resources' Brownfields/Voluntary Cleanup Program issued a certificate of completion for the former River Roads Shopping Center - Main Mall, Lots A, 1A, D site located at Halls Ferry Road in Jennings. The River Roads Mall site consists of approximately 60 acres, originally developed as a large shopping center with various outlet businesses.

The main mall was demolished following asbestos abatement. A report on the abatement was submitted to the program in March 2008. The department determined the site is safe for its intended use.

The brownfield phenomenon, which most associates with the inner city, now extends into the suburbs. Old inner suburbs, such as Jennings, have experienced changes in population, demographics and economics. Once-vibrant shopping centers and plazas now litter the landscape of the inner suburbs. Aging malls and strip centers or the land they sit on have become ripe for reuse. These are "grayfields" -- older, underperforming retail areas surrounded by empty, faded parking lots.

The River Roads Mall was purchased by St. Louis-based Pyramid Construction for redevelopment. Pyramid enrolled the site in the program in 2005 and obtained state Brownfield Remediation Tax Credits based on planned future developments. Although Pyramid ceased development operations in 2008, the environmental remediation portion of the project was completed. In 2006, the Brownfields/Voluntary Cleanup Program issued a certification of completion on another parcel of the mall property, the former Merollis Chevrolet. A third portion of the site is home to an operating grocery store and was excluded from the brownfields project.

Washington Avenue Commercial Building – St. Louis

The Missouri Department of Natural Resources' Brownfields/Voluntary Cleanup Program issued a certificate of completion for the Washington Avenue Commercial Building site located at 1225-1235 Washington Ave. in St. Louis. The site fronts on both Washington and Lucas as well as 13th St. to the west. It is a former mill/loft building constructed in 1899, with seven stories and a basement. The exterior is brick with first floor commercial windows and entrances. The main contaminants were asbestos thermal systems insulation, lead-based paint and fluorescent lights and ballasts.

The project was primarily removal of asbestos-containing materials and lead-based paint with any remaining lead-based paint being encapsulated or enclosed.

The asbestos notifications, monitoring, asbestos-containing material removal locations and methods, final asbestos clearance test results and asbestos waste disposal documentation were included in the final report. All asbestos is reported removed, so no operation and maintenance plan for asbestos-containing materials is needed.

Management of polychlorinated biphenyl containing lighting ballasts and fluorescent bulbs found on the site is documented in the final report. Lead-based cleanup residue from sandblasting and demolition was toxicity characteristic leaching procedure tested for lead only.

A light-weight concrete topping layer was added on top of wood floors to encapsulate lead paint and dust embedded in the wood. The original unpainted concrete basement floor was cleaned to remove dust and sealed with concrete sealer. No other encapsulation of lead-based paint was reported. All other lead-based paint remediation was done using sandblasting and component removal to completely remove lead-based paint. Clearance testing showed cleanup to acceptable levels. The department determined the site is safe for its intended use.

The site is being developed as "Warehouse 7 Apartments" on the top three floors and a mix of commercial, retail and a restaurant on the lower floors. This site was qualified for up to \$1 million in Brownfield tax credits for remediation. It is estimated to create 159 new jobs.

Missouri Department of Natural Resources - Hazardous Waste Program Brownfields/Voluntary Cleanup Section

Carter-Waters Corporation - Warson Road – St. Louis

The Missouri Department of Natural Resources' Brownfields/Voluntary Cleanup Program issued a certificate of completion for the Carter-Waters Corporation - Warson Road site located at 1441 North Warson Road in St. Louis. The site has been developed since 1937 and owned by Carter-Waters since 1993. Currently, the site is used for construction materials distribution, showrooms and warehousing. In the past the site has been used for diesel engine repair and plastic injection molding.

Site investigations showed levels of volatile organic compounds above the Missouri Risk-Based Corrective Action default target levels in soil and groundwater. Further soil sampling, groundwater monitoring and a risk assessment was conducted. The results of those investigations showed levels of contaminants found on the site are below the Missouri Risk-Based Corrective Action target levels for residential use. The department determined the site is safe for its intended use.

The site will continue to be used for construction materials distribution, showrooms and warehousing.

Loughborough Commons – St. Louis

The Missouri Department of Natural Resources' Brownfields/Voluntary Cleanup Program issued a Certificate of Completion for the Loughborough Commons - Outparcel E site located at 950 Loughborough Ave. in St. Louis. Outparcel E of the Loughborough Commons site was formerly the location of the Phelen Faust Paint Manufacturing Company. Several oil and gasoline tanks were identified in historical information. A Nordyne Inc. facility was also across the street from Outparcel E and manufactured heating and cooling machinery.

Initial site characterization of the Loughborough Commons Site identified the presence of petroleum and lead contamination in the soil above the Missouri Risk-Based Corrective Action default target levels. Groundwater analysis identified the presence of petroleum hydrocarbons in excess of the default target levels.

Site investigations showed levels of petroleum products, lead, and mercury above the Missouri Risk-Based Corrective Action default target levels in soil and groundwater at the Loughborough Commons site. A risk assessment was conducted which demonstrates that contaminants on Outparcel E of the Loughborough Commons site are below the Missouri Risk-Based Corrective Action target levels for residential use. The department determined the site is safe for its intended use.

Outparcel E is part of the larger Loughborough Commons site developed into a retail center.

Salisbury Crude Oil Pipeline Release - Salisbury

The Missouri Department of Natural Resources' Brownfields/Voluntary Cleanup Program issued a Certificate of Completion for the Salisbury Crude Oil Pipeline Release site located 1.5 miles southeast of Salisbury. This site consists of approximately five acres of undeveloped farm land. During construction of a natural gas pipeline, evidence of a historic release of crude oil was discovered and was assumed to have originated from an adjacent crude oil pipeline owned by Kinder Morgan Pipelines Inc.

Initial site assessments detected naphthalene and gasoline range total petroleum hydrocarbons in soil and groundwater at levels exceeding the default target levels from the 2006 Missouri Risk Based Corrective Action guidance document. Further site characterization was conducted to fully identify the soil and groundwater contamination. All contaminants were shown to fall below the appropriate residential Tier 1 risk-based target levels, so no remediation was necessary for the site to meet the criteria for unrestricted land use. The department determined the site is safe for its intended use.

The site will remain undeveloped due to the presence of several buried pipelines.

TEPPCO Cape Girardeau Terminal – Cape Girardeau

The Missouri Department of Natural Resources' Brownfields/Voluntary Cleanup Program issued a Certificate of Completion for the TEPPCO Cape Girardeau Terminal site located at 10653 State Hwy. N in Scott City. The site is a 6.89-acre area on a pipeline terminal in Cape Girardeau. In 1988, an above-ground storage tank overfill lead to a release of 4,000 gallons of gasoline. The release was reportedly confined to a diked area.

Investigations have determined naphthalene remains in subsurface soil above Missouri Risk-Based Corrective Action risk-based target levels protective of the domestic use of groundwater pathway. Naphthalene and benzene remain in groundwater above the maximum contaminant level considered safe for drinking water use and the MRBCA default target level.

After several quarters of monitoring, the groundwater plume has been determined to be stable and does not exceed the applicable Tier 1 residential target levels for vapor intrusion. The groundwater plume is contained entirely within the property boundaries and does not present a risk to off-site sources. An environmental covenant was placed on the property preventing the use of groundwater as a drinking water source. The department determined the site is safe for its intended use.

North Park - HPOD Lots A, B and C - Berkeley

The Missouri Department of Natural Resources' Brownfields/Voluntary Cleanup Program issued a Certificate of Completion for the North Park - HPOD Lots A, B and C site located at 4400 N Hanley Road, 4500 North Hanley Road and 8640 Evans Ave. in Berkeley. The HPOD Lots A, B and C site is located in the north and west portions of the HPOD site, which is located in the southern end of the North Park development near the intersection of North Hanley Road and Evans Avenue. The majority of the HPOD site previously achieved a Certificate of Completion on Nov. 5, 2009.

Trenching activities across the entire HPOD site identified buried construction type waste mixed with "trash" (e.g., plastic, metal, wood and tires) in a former ravine located near the center of the property. This area primarily covered the above-mentioned parcels that were excluded from the previous certificate of completion. North Park Partners, LLC, applied to the program for oversight of remedial action.

Environmental site assessments revealed the following contaminants of concern in soil and/or groundwater: on-site buried debris, primarily concrete comingled with "trash"; and benzene, toluene, ethylbenzene, xylenes, naphthalene, gasoline, diesel and oil range organics, polynuclear aromatic hydrocarbons at the former Denny's Garage property located at 4250 North Hanley.

Various remediation activities were conducted to address the identified areas of environmental concern.

The former Denny's Garage property was previously closed under the existing Certificate of Completion for the North Park Phase I Area, issued Nov. 5, 2009. No additional work was performed in this area of the site since the intended use of the HPOD site will remain non-residential.

Buried debris was excavated, segregated and properly managed. Trash was removed and disposed as special waste. Construction and demolition debris is considered "clean fill" and was stockpiled for future on-site reuse. Concentrations of chemicals of concern in soil were below applicable risk-based target levels. To protect future workers and occupants at the property, the risk assessment recommended restricting land use to non-residential, prohibiting installation of groundwater wells and implementing a Soil Management Plan for land disturbance activities. The department determined the site is safe for its intended use.

Current plans for the site include an office/warehouse and distribution facility for Express Scripts.

Missouri Department of Natural Resources - Hazardous Waste Program Brownfields/Voluntary Cleanup Section

Independence Main Street Property-Area 1 - Independence

The Missouri Department of Natural Resources' Brownfields/Voluntary Cleanup Program issued a Certificate of Completion for the Independence Main Street Property-Area 1 site located at 315 N. Main in Independence. The city-owned property is part of a larger effort to revitalize downtown Independence near the square. The property had a variety of historical uses, mostly related to automobile repair services. It currently sits next to a city museum.

Investigations for Area 1 revealed no groundwater or soil contamination above Missouri Risk Based Corrective Action (MRBCA June 2006) residential risk-based target levels. Lead-based paint in the building was encapsulated and clearance sampling revealed no lead contamination above non-residential risk-based target levels. An environmental covenant has been filed in the property's chain of title that restricts the site to non-residential use. An operations and maintenance plan has also been filed in the property's chain of title, subsequently to the environmental covenant, to ensure proper maintenance of the encapsulated lead-based paint. A separate certificate of completion will be issued for Area 2 when appropriate, as environmental activities are still ongoing. The department determined the site is safe for its intended use.

Area 1 will be developed into MyArts Art Studio, a program offering at-risk youths the chance to explore creative abilities in visual arts, silk screen, ceramics, photography and graphic design. The goal of the program is designed to decrease drug use and delinquency, improve grades and help build life skills while improving relationships and attitudes.

Ammon Painting Company (former) – Kansas City

The Missouri Department of Natural Resources' Brownfields/Voluntary Cleanup Program issued a Certificate of Completion for the Ammon Painting Company (former) site located at 501 and 505 East 135th Street in Kansas City. This site was developed in approximately 1959 as the Ammon Painting Company and was previously residential. The site consists of a one and one-half-story building and four one-story buildings and was used mainly for paint storage. The property has been vacant since 2007.

Site assessments revealed lead and arsenic in soil and groundwater exceeding default target levels as listed in the 2006 Missouri Risk Based Corrective Action guidance document, and gasoline range total petroleum hydrocarbons in soils exceeding default target levels and residential MRBCA Tier 1 risk-based target levels for sandy soil. Further assessment showed the metals levels in soils to be within the range of typical background levels and that no exposure risk exists from the metals contamination in groundwater. The gasoline range total petroleum hydrocarbons contaminated soil was excavated in accordance with a department-approved remedial action plan, and subsequent confirmation sampling showed results to be below the default target levels. The department determined the site is safe for its intended use.

The site will continue to be used for commercial purposes.

Sites in Brownfields/Voluntary Cleanup

| | Active | Completed | Total |
|----------|--------|-----------|-------|
| JANUARY | 269 | 611 | 880 |
| FEBRUARY | 261 | 619 | 880 |
| MARCH | 261 | 623 | 884 |

New Sites Received

JANUARY

Analytical Bio-Chemistry Laboratories, Inc.,
 Columbia
 Sabreliner Corporation (former), St. Louis
 AT Still University Dental Clinic Development,
 Kirksville

FEBRUARY

Oakland Heights I, Kansas City
 Isle of Capri Casino (proposed site), Cape
 Girardeau
 Hickory Hills Marketplace, Springfield

MARCH

Edcor Safety (former), Kansas City
 Chillicothe Correctional Facility, Chillicothe
 Regal Cleaners, University City
 Gate City Bank Building, Kansas City
 Cheshire Inn Restaurant (former), St. Louis

Sites Closed

JANUARY

Chemical Building, St. Louis
 St. Louis Public Schools Special Education
 Building, St. Louis

FEBRUARY

Independence Main Street Property-Area 1,
 Independence
 Loughborough Commons - Outparcel E, St. Louis
 North Park - HPOD Common Ground, Berkeley
 North Park - HPOD Lots A, B and C, Berkeley
 Water Street Lofts, Springfield
 TEPPCO Cape Girardeau Terminal, Scott City
 Salisbury Crude Oil Pipeline Release, Salisbury
 Ammon Painting Company (former), Kansas City

MARCH

Carter-Waters Corporation - Warson Road, St. Louis
 St. Joseph's Hospital, Kirkwood (former), Kirkwood
 Washington Avenue Commercial Building, St. Louis
 AT Still University Dental Clinic Development,
 Kirksville

Missouri Department of Natural Resources - Hazardous Waste Program Brownfields/Voluntary Cleanup Section

The Department of Natural Resources' Drycleaning Environmental Response Trust, or DERT, Fund provides funding for the investigation, assessment and cleanup of releases of chlorinated solvents from dry cleaning facilities. The two main sources of revenue for the fund are the dry cleaning facility annual registration surcharge and the quarterly solvent surcharge.

Passed during the recent legislative session, SB135 extends the sunset on the Dry-Cleaning Environmental Response Trust Fund from August 28, 2012 through August 28, 2017.

Registrations

The registration surcharges are due by April 1 of each calendar year for solvent used during the previous calendar year. The solvent surcharges are due 30 days after each quarterly reporting period.

| Calendar year 2010 | Active Dry Cleaning Facilities | Facilities Paid | Facilities in Compliance |
|--------------------|--------------------------------|-----------------|--------------------------|
| Jan - Mar 2011 | 223 | 113 | 50.67% |

| Calendar year 2011 | Active Solvent Suppliers | Facilities Paid | Suppliers in Compliance |
|--------------------|--------------------------|-----------------|-------------------------|
| Jan - Mar 2011 | 11 | 10 | 90.91% |

Cleanup Oversight

| Calendar Year 2011 | Active Sites | Completed Sites | Total |
|--------------------|--------------|-----------------|-------|
| Jan - Mar 2011 | 23 | 9 | 32 |

New Sites Recieved 2

January
A G Cleaners, Kirkwood
February
none
March
Regal Cleaners, University City

New Sites Closed 0

January
none
February
none
March
none

Missouri Department of Natural Resources - Hazardous Waste Program Brownfields/Voluntary Cleanup Section

Reimbursement Claims

The applicant may submit a reimbursement claim after all work approved in the work plan is complete and the DERT Fund project manager has reviewed and approved the final completion report for that work. The DERT Fund applicant is liable for the first \$25,000 of corrective action costs incurred.

| | Received | Under Review | Paid/Processed |
|----------|----------|--------------|----------------|
| January | 6 | 3 | 2 |
| February | 4 | 5 | 2 |
| March | 3 | 8 | 3 |

| | Received | Under Review | Paid/Processed |
|----------|--------------|--------------|----------------|
| January | \$50,560.38 | \$51,772.42 | \$33,739.34 |
| February | \$53,436.09 | \$34,493.85 | \$26,745.00 |
| March | \$122,626.86 | \$91,527.24 | \$26,362.91 |

5 reimbursement claim(s) were processed/paid during this period:

| | | |
|---------------------------------|-------------|-------------|
| Busy Bee Laundry | Rolla | \$18,385.00 |
| Clayton Cleaners | St. Louis | \$8,104.50 |
| Colonial Cleaners (Arsenal St.) | St. Louis | \$36,843.75 |
| First Capitol Cleaners | St. Charles | \$17,038.50 |
| Yorkshire Cleaners | Marlborough | \$6,475.50 |

Total reimbursements as of March 31, 2011: \$1,380,008.10
DERT Fund Balance as of March 31, 2011: \$1,783,902.87

Missouri Department of Natural Resources - Hazardous Waste Program Compliance and Enforcement Section

Inspections and Assistance

Regional Office Hazardous Waste Compliance Efforts

- Conducted 109 hazardous waste generator compliance inspections:
 - 13 at large quantity generators.
 - 62 at small quantity generators.
 - 29 at conditionally exempt small quantity generators.
 - Two at e-waste recycling facilities.
 - One at a resource recovery facility.
 - One targeted reinspection.
- Issued 68 letters of warning (55 of which were a result of inspections conducted during January through March) and two notices of violation (one was a result of an inspection conducted during January through March) requiring actions to correct violations.
- Received 53 citizen concerns regarding hazardous waste with 51 being investigated during the reporting period.

Hazardous Waste Compliance and Enforcement Efforts

- Staff prepared documents and presentations for Hazardous Waste Forum meetings on Feb. 7, March 3 and April 7, and discussed potential amendments to regulations with stakeholders. The Hazardous Waste Enforcement Unit Chief also finalized an aerosol can factsheet and worked with companies to resolve individual questions and concerns noted during forum meetings. Staff also drafted a survey to obtain stakeholder input on regulations under discussion and worked with the program director's office to finalize and send the survey to approximately 1,000 stakeholders.
- Conducted 14 inspections of commercial hazardous waste treatment, storage and disposal facilities, one of which resulted in the issuance of a letter of warning.
- Conducted one case development inspection.
- Conducted one focused compliance inspection.
- Issued one penalty negotiation letter.
- Worked with the Attorney General's Office to prepare two settlement agreements.
- Resolved and closed seven hazardous waste enforcement cases.
- Received two new enforcement cases and issued one letter of intent to initiate enforcement action.

Tanks Compliance and Enforcement Unit Efforts

- The completion of State Fiscal Year 2010 marked the third successful year of the joint contract inspection agreement between the department and the Petroleum Storage Tank Insurance Fund. These efforts resulted in Missouri achieving one of the highest leak detection compliance rates in the United States and the highest overall compliance rates in our region.
- In the most recent three year inspection cycle (July 1, 2007 through June 30, 2010), the Tanks Compliance and Enforcement Unit conducted 483 inspections of temporarily closed tank facilities. In addition to these temporarily closed site inspections, staff also inspected temporarily closed tanks at some active facilities. These inspections, along with coordinated efforts from the Tanks Closure and Technology Unit, accounted for a large portion of the approximate 1,500 underground storage tank systems closed since July 1, 2007. Proper, permanent closure of underground storage tanks ensures any release from a tank is addressed.

Missouri Department of Natural Resources - Hazardous Waste Program

Compliance and Enforcement Section

Compliance and Enforcement

- During that initial three year inspection cycle, more than 4,100 inspections were conducted. More than 95 percent of the issues documented during those inspections have been resolved. Missouri owners/operators and their contractors work diligently (and promptly) to resolve any issues found during the inspections. These members of the regulated community work closely with the department, the Petroleum Storage Tank Insurance Fund, and the contract inspector, if appropriate, to determine the best ways to resolve any inspection findings. As such, letters of warning are issued for less than 15 percent of inspections conducted. More than 85 percent of inspections are resolved with just the initial letters, telephone calls and other informal communications. Notices of violation are issued for only about 5 percent of inspections.
- The unit has continued to build a positive, cooperative working relationship with the tanks regulated community through participation in the PACE Petroleum Marketers trade show, the National Institute for Storage Tank Management's Missouri conference and articles published in the Missouri Petroleum Marketers and Convenience Store Association's newsletters.
- In addition, each June, members of the unit host an Operational Tanks Day for tank owners and operators during the Missouri Waste Control Coalition held at Lake of the Ozarks. Tank manufacturers, installation companies, equipment representatives and department and contract inspectors provide valuable equipment and installation information.
- To encourage even more communication between the regulated community and the department, the unit has established an email listserv. This listserv is used to provide updates, determinations and proposed rule changes that impact the regulated tanks community. It also serves as a way for the regulated community to post questions or comments to the department.
- The unit has worked with the regulated community, the Missouri Petroleum Storage Tank Insurance Fund, and the Missouri Petroleum Marketers and Convenience Store Association to draft rule changes pertaining to the operational aspects of underground storage tanks. With the rapid development of new equipment in recent years, this effort is geared toward updating the underground storage tank regulations to better align with the industry of today and help prevent future releases. These changes also include expanded oversight authority for new installations, required closure for all out of use tank systems, better assessments for steel tanks to remain in use, more detailed reporting of underground storage tank system tests and evaluations and clarification of vague or ambiguous language.
- The department began inspecting every new tank installation in 2009. Not only has this effort been very successful in confirming and documenting the equipment installed, but has made great strides in ensuring installations are conducted in accordance with manufacturer requirements and industry standards.
- In addition to tanks compliance and operational issues, the unit continues to use the expedited process for referring cases with financial responsibility violations to the Missouri Attorney General's Office. This process was approved by the Hazardous Waste Management Commission in 2008 and renewed in subsequent years. Despite the unit being short staffed, the dedicated efforts of those involved with this procedure have kept the number of facilities without a documented financial responsibility mechanism to a low number.
- During January through March 2011, the Tanks Section referred 18 facilities with financial responsibility violations to the unit for enforcement action. Unit staff resolved 14 enforcement cases, 10 of which had financial responsibility violations. The unit also referred six facilities to the Attorney General's Office for enforcement action, five of which had a financial responsibility violation.

Missouri Department of Natural Resources - Hazardous Waste Program Compliance and Enforcement Section

Special Facility Unit Efforts

The Special Facilities Unit inspects permitted treatment, storage and disposal facilities (both commercial facilities that receive waste from off-site and those that manage just their own wastes). During the period January through March, the two inspectors conducted 10 inspections and noted no deficiencies requiring correction in their reports. Inspectors work closely with Hazardous Waste Program's Permits section to assure all permitted areas are evaluated, requirements are clarified as much as possible and necessary permit modifications are pursued and resolved.

Polychlorinated Biphenyl Inspector

The inspector conducted 13 compliance inspections at various types of facilities throughout the state. Leaking transformers were observed during some of these inspections. The reports are forwarded to the U.S. Environmental Protection Agency Region 7, which has authority for taking any necessary enforcement action regarding polychlorinated biphenyl according to the Toxic Substances Control Act.

Hazardous Waste Transporter Inspector

From Jan. 1 to March 31, the transporter inspector:

- Conducted 23 commercial vehicle inspections, during which two vehicles were placed out of service. As part of the Commercial Vehicle Safety Association's protocol, the department sends the reports to the Missouri State Highway Patrol. The transporter must certify to the patrol the violations were corrected. The transporter inspector also reviews documentation and makes contacts to support the issuance of hazardous waste transporter licenses by the Missouri Department of Transportation.
- Reviewed 60 licenses for renewal and nine new transporter's licenses.
- Issued one railroad license.
- Conducted two used oil facility inspections and assisted on two treatment, storage and disposal facility inspections.
- Performed three inspections with regional office inspectors to focus on the transportation of hazardous waste at facilities.
- Reviewed between 60,000 to 70,000 hazardous waste manifests for compliance.
- Attended several meetings with the Missouri Department of Transportation and the U.S. Department of Transportation to assist on hazardous waste transportation issues.
- Provided monthly updates to the highway patrol.
- Maintained Missouri's list of licensed hazardous waste transporters.
- Sent 213 reminders to submit used oil annual reports.
- Updated list of Missouri licensed hazardous waste transporters.
- Compiled and maintained a list of treatment, storage and disposal facilities that ship wastes to and through Missouri to assure compliance with manifest regulations.
- Issued two notices of violation, one to a transporter and one to a hazardous generator for failure to use a licensed hazardous waste transporter.

As of March 2011, there were 219 licensed hazardous waste transporters in Missouri.

Resolved Hazardous Waste Enforcement Cases

MCF Systems Atlanta Inc. - Decatur, Ga

MCF Systems is a nationwide transporter of hazardous waste and infectious waste. By reviewing hazardous waste manifests for compliance and coordinating with the Missouri Department of Transportation, the agency that issues hazardous waste transporter licenses, Compliance and Enforcement Section staff found MCF had allowed their hazardous waste transporter's license to expire. Staff documented the company had continued to transport hazardous waste from 76 Missouri drycleaners for 18 months without the necessary license. As a result of the enforcement action, the company obtained a license and developed a new policy to ensure the necessary license is kept up-to-date. The company also entered into a settlement agreement with the department and the Attorney General's Office that includes:

- Cost recovery to the department for \$855 in past unpaid license fees.
- Civil penalties that would have been assessed against each of the 76 Missouri dry cleaners for failure to use a licensed hazardous waste transporter.
- A civil penalty for the MCF violations.

The total penalties paid will be \$174,855 in five annual installments of \$34,800 to 10 different Missouri school funds.

AM Pyrotechnics - Buffalo

A department fireworks manufacturer inspection initiative, conducted in state fiscal year 2010, included AM Pyrotechnics in Buffalo. The company received a notice of violation for failure to determine if waste was hazardous. The department assisted the company with updating their processes and AM Pyrotechnics entered into a settlement agreement with the department and the Attorney General's Office and paid a civil penalty of \$280 to the Dallas County School Fund.

Aerofil Technologies Inc - Sullivan

On Jan. 31, 2011, the Franklin County Circuit Court entered a Consent Judgment between the State of Missouri and Aerofil Technologies Inc. In 2009, the St. Louis Regional Office discovered an Aerofil Technologies hazardous waste storage tank had major deficiencies in its spill protection and release detection ability. The facility refused the attempts of the regional office to prompt correction of the deficiencies.

After this matter was referred to the Hazardous Waste Program for enforcement and penalties, the facility began to take action to correct these and other less serious violations. This matter was referred to the Attorney General's Office for pursuit of injunctive action and penalties on March 26, 2010.

Although the facility operators originally intended to rebuild and retrofit the system to achieve compliance with safety standards, they eventually decided it was more cost effective to build a new tank system to meet the standards.

On Aug. 24, 2010, the new system was inspected by the Hazardous Waste Program, and all hazardous waste violations previously cited at Aerofil Technologies were corrected. Pursuant to the consent judgment, Aerofil Technologies paid \$14,000 in a single payment to the Franklin County School Fund as a penalty.

New Listserv Postings

The Hazardous Waste Compliance and Enforcement Section's Assistance Listserv covered information about co-generators, the responsibility that a generator has in regards to making a hazardous waste determination, determining if a waste is a solid waste and introduced a new Universal Waste Small Quantity Handler Checklist.

To sign up to receive the regular e-mail updates, visit dnr.mo.gov/env/subscribe_ecahwg.htm. Archived listserv e-mails are also available from this address.

Update at Lake City Army Ammunition Plant

Remediation at the Lake City Army Ammunition Plant in Independence continues to move forward. This 3,935-acre government owned-contractor operated facility is the only such facility of its kind that manufactures ammunition for the United States military. The plant was established in 1941 to manufacture and test small caliber ammunition. It has remained in continuous operation except for one five-year period, from 1946 to 1950, when it was placed on standby status.

Operations at Lake City include the manufacture, assembly, storage and test firing of small caliber ammunition. Over the years industrial operations have generated large quantities of hazardous wastes and hazardous substances including oils and greases, solvents, explosives, PCBs, metals and depleted uranium. An active outdoor range is also located on-site where small arms ammunition was tested. This ammunition has included depleted uranium rounds, in addition to spent lead bullets and other metals constituents, have been released to the environment.

This site is a conglomerate of four large operable units with various types of contamination and geology that make the cleanup unique. All operable units and remedies have been reviewed and documentation of the review is contained within the second five-year review report. Five-year reviews are conducted at sites where:

- Cleanup activity is still in process after five years.
- Some levels of contaminants were left, limiting the use of the site.

The purpose of reviews is to ensure the site is safe and the cleanup continues to be protective to people and the environment.

During the five year review process, the Federal Facilities Section, in coordination with EPA, reviews the following information:

1. Historical and current file information on the site.
2. Changes in surrounding land use.
3. New field inspections.
4. Interviews of the local community or people associated with the site and federal and state environmental standards.

The first five-year review was completed in 2005 and the second five-year review document has just recently been reviewed and finalized.



These hybrid poplar trees were planted at the Lake City Army Ammunition Plant site as part of a phytoremediation study that may assist in the absorption of solvents such as TCE in the soil.

The U.S. Army is the lead cleanup agency at the site with EPA as the lead regulatory agency with the Missouri Department of Natural Resources given additional regulatory authority over the site as a part the federal facilities agreement. The Army continues to move the site forward by addressing many outstanding issues. The Army recently completed a comparability study looking at various cost effective ways to sample more effectively and efficiently.

The Army also continues to host quarterly Restoration Advisory Board meetings to inform the board and community members about site cleanup progress, answer comments questions and address issues with implementation of the remedy at some of the operable units. The Lake City Restoration Advisory Board is comprised of active citizens, the department, EPA and the Army and has been in existence for more than 15 years. With the completion of this second five-year review process, the Army, EPA and the department, with input from the Restoration Advisory Board are moving towards tackling additional remedial activities and environmental issues at this federal facility site.

Habitual Violator Review Process

As discussed in previous quarterly reports, under the Missouri Hazardous Waste Management Law, the Permits Section regulates facilities that actively treat, store (for more than 90 days) or dispose of hazardous waste in Missouri. This law combines the Resource Conservation and Recovery Act of 1976, also known as RCRA, requirements the U.S. Environmental Protection Agency authorized Missouri to implement, along with other requirements Missouri has added.

One of the additional requirements Missouri added pertains to habitual violators. The department cannot issue a Missouri Hazardous Waste Management Facility Part I Permit to any person the department determines, based on a review of their compliance history, routinely engages in hazardous waste management practices that pose a threat to human health or the environment. This applies to new facilities wanting a permit, operating facilities wanting to renew their permit and new owners or operators of existing permitted facilities actively treating, storing or disposing hazardous waste. This does not apply to facilities only performing post-closure care for previously closed hazardous waste management units or corrective action for historical releases of hazardous waste or hazardous waste constituents to the environment. The Permits Section is responsible for determining if someone is a habitual violator.

Definition of a Habitual Violator

A habitual violator is a “person” who has failed the habitual violator test outlined in 10 CSR 25-7.270(2) (H)5, by routinely violating any state’s solid or hazardous waste management law or any federal law governing the management of solid waste, hazardous waste, PCB material or PCB units. In addition to the definition in section 260.360(17) RSMo., the person can be:

- The applicant.
- An officer or management employee of the applicant.
- An officer or management employee of any corporation or business that owns an interest in the applicant.
- An officer or management employee of any business in which an interest is owned by any person, corporation or business that owns an interest in the applicant.
- Any officer or management employee of any corporation or business in which an interest is owned by the applicant.

The “management employee” mentioned above is any individual, including a supervisor, who has the authority to perform or effectively recommend the hiring, firing, assigning or directing of other employees with respect to waste management operations. The phrase “owning an interest in” means having control of at least 7.5 percent of the applicant or person. For city, county, state, federal and military-owned facilities “owning an interest in” means one level above or below the facility applying for the permit. For a military-owned facility, it would be one command level above the base where the facility will be operated. The “command” also has an interest in all facilities within the command.



This picture illustrates a closed RCRA land disposal unit which would require post-closure care and corrective action, but not a habitual violator review.

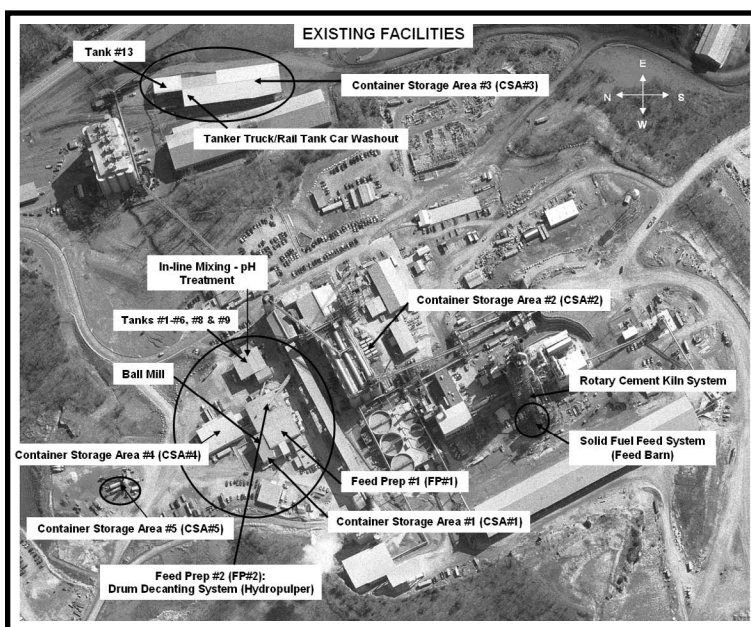
Missouri Department of Natural Resources - Hazardous Waste Program

Permits Section

The Information Used

The applicant submits a complete Habitual Violator Disclosure Statement (available online at dnr.mo.gov/forms/780-1966.pdf) and supporting documentation to the Permits Section as part of their hazardous waste permit application. The applicant must provide the following information on or with the disclosure statement:

- The names of all individuals that qualify as a “person” described in the previous section and the structure of the applicant in relation to those “persons.”
- The names of the officers and management employees of those “persons.”
- A list of all facilities owned or operated by those “persons.” This includes all permitted, licensed interim status, unpermitted or unlicensed hazardous waste management or commercial PCB facility, solid waste disposal area, solid waste processing facility, certified hazardous waste resource recovery facility or solid or hazardous waste transporter or transfer station.
- A list of all permits, licenses and certifications those “persons” held within the last 10 years for the operation or post-closure of a solid waste management, infectious waste management, commercial PCB or hazardous waste management facility.
- A list of all violations those “persons” acquired within the last 10 years, including those with an appeal or final judgment pending. A violation includes a final administrative order, permit revocation, permit suspension, civil judgment against the applicant, criminal conviction, settlement agreement in connection with a civil action that has been filed in court or an equivalent action by any regulatory agency or competent authority in response to any violation of any state’s solid or hazardous waste management law or any federal law governing the management of solid waste, hazardous waste, PCB material or PCB units. A notice of violation or letter of warning are not included.
- A list of all incidents in which those “persons” have been found in contempt of any court order enforcing any state’s solid or hazardous waste management law or federal law pertaining to hazardous waste.



This facility passed the habitual violator review, and their permit was issued on October 14, 1999.

The information provided on the disclosure statement must include everything within the previous 10 years from the date the disclosure statement is submitted. If the company has not existed for 10 years, the applicant must submit information from the time the company was started to the time the disclosure statement is submitted. If an individual, rather than a company, is purchasing a facility, the disclosure statement must include information about the individual for the previous 10 years. For example, if John Doe owned another facility within the previous 10 years, he would be required to report any violations incurred at that facility. If the disclosure statement was submitted more than a year before the final permit is to be issued, the department will require the applicant to submit updated information.

The Habitual Violator Review Process

The complete Habitual Violator Disclosure Statement is forwarded to the Permits Section's habitual violator reviewer. The reviewer first examines the disclosure statement for completeness. If the disclosure statement is determined to be incomplete, the applicant is notified with a request to submit the missing information. After the disclosure statement is complete, the reviewer verifies the information submitted by comparing the information submitted to information obtained from various sources. The reviewer looks for additional facilities; additional hazardous waste, solid waste, or PCB law violations; and any judgments of contempt of court orders that the applicant did not include in the disclosure statement.

If an applicant has 100 facilities or less, all facilities are checked to verify the reported violations. When an applicant has more than 100 hundred facilities, the reviewer verifies 100 plus 10 percent of the remaining facilities to verify the reported violations. For example, if the applicant has 300 facilities, the reviewer will verify 120 facilities. In this instance, the facilities are chosen through random sampling. If non-reported violations are discovered, additional facilities are checked. The number of additional facilities checked depends on the number of non-reported violations discovered in relation to the original number of facilities checked. In extreme cases, all facilities may be checked.

If any "person" listed on the disclosure form has been found in contempt of any court order enforcing any states' solid or hazardous waste management law or federal law pertaining to hazardous waste, the department will deny the permit. If there are no contempt of court order findings, the reviewer then performs the Tier I calculations of the habitual violator test. The Tier I numerical calculation is described in 10 CSR 25-7.270(2)(H)5.A. The reviewer determines the total number of calculated violations using the following formula.

$$\frac{\text{Number of Violations}}{\text{Total Number of Facilities}} = \text{Calculated Violations}$$

If the total number of calculated violations is two or less, the applicant passes the Tier I Test and, in turn, the habitual violator test. No additional evaluation is needed. If the total number of calculated violations is greater than two, the applicant fails the Tier I Test and a Tier II Examination is performed.

If the applicant fails the Tier I Test, the department sends the applicant their Tier I score. The applicant has 30 days from the time they receive their score to produce clear and convincing evidence they are not a habitual violator. When the department receives the evidence from the applicant, a Tier II examination is performed. During the Tier II Examination, the department determines whether or not the evidence is clear and convincing by considering all the factors listed in 10 CSR 25-7.270(2)(H)5.B. The department can decide the applicant has not failed the habitual violator test if the evidence is clear and convincing. If the applicant does not produce the evidence or the evidence is not clear and convincing, the department will determine the applicant to be a habitual violator and deny their permit.

Doe Run Resources and Missouri Department of Natural Resources Agree to Address Lead Contamination at St. Joe State Park in St. Francois County

The Doe Run Resources Corporation and the Missouri Department of Natural Resources agreed to conduct a removal action to address lead contamination at St. Joe State Park. This includes off-road vehicle riding areas and a former lead milling location now preserved as a museum, as well as an adjacent section of the Shaw Branch floodplain in St. Francois County.

Terms of EPA's agreement with Doe Run and the department are outlined in an administrative settlement agreement and order on consent, filed in Kansas City, Kansas. Under the order, Doe Run and the department must submit a draft work plan to EPA this summer, outlining intended steps to complete the removal action.

The order focuses on a 1,240-acre portion of the 8,238-acre St. Joe State Park, Missouri's third-largest state park, located near the city of Park Hills. The site is known to EPA as the Federal Tailings Pile Superfund Site, a sub-site of Big River Mine Tailings Superfund Site, which is on the Agency's National Priorities List for cleanup of hazardous lead.

The park portion of the site is owned by the State of Missouri, which received it as part of an 8,238-acre gift from the St. Joe Minerals Corporation in 1976. St. Joe Minerals Corporation, which changed its name to Doe Run Resources Corporation in 1994, conducted lead mining and milling operations in the vicinity from approximately 1923 to 1972.



Part of the off-road riding area at St. Joe State Park.

St. Joe State Park is used for a variety of recreational activities, including off-road vehicle riding, camping, picnicking, hiking, horseback riding, swimming and fishing. However, soils at the site are contaminated with lead and lead compounds from mining wastes that accumulated over several decades.

Additionally, lead has been found at elevated levels in sediment, surface water and aquatic life adjacent to the site in the Shaw Branch of Flat River, a tributary of Big River. Actions to address lead contamination in the Shaw Branch floodplain included in EPA's order:

- All off-road vehicle trails contaminated with 600 mg/kg or more of lead must be covered with a minimum of 12 inches of clean soil, rock, or a mixture of both.
- Steep slopes will be regraded and stabilized with rock to prevent erosion. Vegetation will be established or augmented to reduce exposure to the public and minimize erosion.
- Sediment and surface water will be addressed by removing creek-side lead tailings deposits, constructing stormwater retention structures to help reduce the movement of sediment, regrading to stabilize steep slopes and improving drainage channels that cross the site.
- Post-removal controls, including administrative controls to prevent public access to vegetated areas and ongoing monitoring to ensure the remedy remains protective, must be implemented.

Missouri Department of Natural Resources - Hazardous Waste Program Superfund Section

Superfund

EPA estimates that the removal action will cost about \$7 million and take approximately 18 months to complete, once it begins.

Nearly all of the cleanup costs will be covered by funds from a special account established in 2009 as part of the \$1.79 billion bankruptcy settlement involving the American Smelting and Refining Company LLC, or ASARCO. A \$7.7 million special account was specifically set aside for cleanup of the Federal Tailings Pile Superfund Site, which includes St. Joe State Park.

As a result of the ASARCO settlement, the largest environmental bankruptcy case in U.S. history, special accounts were established to pay for past and future cleanup costs incurred by federal and state agencies at more than 80 Superfund sites contaminated by mining operations in Missouri and 18 other states.

A video of department's air sampling efforts at the park is posted on the department's Youtube page at www.youtube.com/watch?v=-t5trUx49rg.



Inside the Doe Run Buick site.

Missouri Department of Natural Resources - Hazardous Waste Program Superfund Section

Natural Resources Damages Team Tours Viburnum Trend

On Jan. 10 and 11, staff from the Hazardous Waste Program, as well as representatives from other divisions within the department and the Attorney General's Office, toured mining-impacted areas of southeast Missouri known as the Viburnum Trend. The tour group's time was dedicated to introducing the newly formed Natural Resources Damages Team to areas where natural resources were potentially injured from releases of lead mining wastes.

Hazardous waste staff with specific skills to benefit the team participated in the tour including team leader and department Natural Resources Damages Coordinator Frances Klahr. Klahr has been working on natural resources damages claims and sites for almost 13 years as a representative for the department director, who is trustee for the state,

Staff learned about natural resources damages and what injured resources look like by seeing various forms of natural resource injuries caused by decades of lead mining, as well as opportunities for restoration. The tour gave staff a chance to learn more about the subject matter and their potential role on the newly formed team.

The team, along with the Hazardous Waste Program Director, David Lamb, visited the Barton Fen, which is a small grassy area in the middle of forest. The team learned that this ecologically sensitive area is home to a unique crayfish and dragonfly that coexist in the area and are only found in this type of habitat. The Hine's Emerald Dragonfly is a federally threatened and endangered species. The greatest threat to the dragonfly is habitat destruction. Most of the wetland habitat this dragonfly depends on for survival has been drained and filled.

Near the St. Joe Trailer Park the team saw ore tailings impoundments, the end product of the milling process, originally used in the driveways of the trailer park. The tailings look like common sand, but is highly contaminated with heavy metals including lead, zinc and cadmium that can cause health issues especially to children younger than 72 months old.

The team also toured a berm holding back thousands of gallons of contaminated water produced by nearby milling activities. Wells and sampling locations at the base of berm provide monitoring of any water seepage.

Lastly, the team went down into a mine at the Doe Run Buick site. In the tunnels, staff witnessed how the galena is mined and hauled in and out. Aboveground, the team was led into the processing area where galena rock is processed to recover lead, copper and zinc. Doe Run also invited department staff to view a new technology for extracting lead from ore without the use of extreme heat, thus reducing hazardous emissions and solid waste.



Hazardous Waste Program staff, and others, got to tour the Doe Run Buick site in January.

Missouri Department of Natural Resources - Hazardous Waste Program Tanks Section

Tanks Section

Petroleum Storage Tanks Calendar Year 2010 Statistics

During calendar year 2010, the department accomplished the following work related to petroleum storage tanks:

- Properly closed 420 tanks.
- Reviewed 303 closure reports.
- Approved 116 closure notices.
- Conducted five site investigations.
- Responded to 21 emergencies involving petroleum releases.
- Oversaw completion of 182 remediation sites.
- Issued 1,150 certificates of registration.
- A total of 113 new releases were reported during calendar year 2010.
- Remediation staff received 2,048 remediation documents and generated 2,173 response letters.
- Department staff were notified about 53 new installations at tank sites and received 37 new site registrations.
- Compliance and Enforcement Section staff resolved 187 cases involving violations.
- At the end of the 2010 calendar year, there were 264 active enforcement cases.
- Financial responsibility compliance was at 98 percent. This number reflects insurance coverage from both the Petroleum Storage Tank Insurance Fund and other private policies and statements.
- The department currently regulates 3,578 facilities with 9,457 active underground storage tanks.



At some of the Tanks' ARRA sites, it took a lot of digging to remove the source of the contamination. This is a St. Louis site.

Annual Petroleum and Convenience Store Association Exposition

Staff from the Hazardous Waste Program's Tanks Section, and others, attended the Petroleum and Convenience Store Exposition of Mid-America, or PACE, held at the Kansas City Convention Center, Bartle Hall on Feb. 25 and 26. PACE is the premier Midwest tradeshow with more than 4,000 attendees from the four-state area of Missouri, Kansas, Iowa and Nebraska. This regional tradeshow attracts many key industry leaders. The show features the latest in petroleum and convenience store products, tank system equipment, hardware, soft goods, technology and the hottest new trends and services.

Staff had a chance to meet and inform members of the industry in an informal setting. Materials displayed included the Missouri Resources magazine, a variety of the department fact sheets about underground storage tank management and other underground storage tank publications. Many questions were answered, policies discussed and even a few compliments received.

Staffing the booth from the Compliance and Enforcement Section's Petroleum Storage Tank Enforcement Unit was Chris Plassmeyer and John Arter. The Tanks' section chief also attended the exposition along with two staff from the Tanks Section and two additional staff from the Compliance and Enforcement Staff that made a day trip to the event.

Final ARRA Report submitted to the Environmental Protection Agency

The department recently submitted a final report about the American Recovery and Reinvestment Act, or ARRA, Underground Storage Tank project. This project allowed the state to partner with Missouri communities and property owners to help identify abandoned gas station sites for investigation and cleanup activities. When selecting sites to benefit from the recovery act funds, the department also

took into consideration the planned or potential future use for abandoned underground storage tank sites. The department clearly demonstrated it can conduct underground storage tank investigations and cleanups at abandoned gas stations quickly and effectively.

Abandoned underground storage tanks pose environmental threats and economic development barriers for the redevelopment and reuse of properties. Because of real or perceived contamination at these sites, developers, banks and other lending institutions are hesitant or unwilling to invest in the property. The recovery project helped to remove those barriers at a number of contaminated sites. This project was a positive step towards providing economic stimulus to the consultants and subcontractors doing tanks work, creating and maintaining jobs, expanding existing and creating new businesses and clearing the way for communities to redevelop and reuse these properties in a productive manner.

Assessing and cleaning up the sites not only provided economic stimulus to the consultants and subcontractors doing the physical tank work, but will have farther reaching and sustainable positive economic impacts. Future redevelopment of the sites can spur the creation of jobs, expand existing businesses, create new businesses and clear the way for communities to redevelop and reuse these properties.

Even though the department received \$3.254 million and conducted work during the recovery project, there continues to be downtown corners across Missouri where vacant buildings are unoccupied because of what is usually buried a few feet below ground, abandoned underground petroleum storage tanks. Before many of these properties may become occupied again, they need to be assessed to determine the proper cleanup action. Many of these sites do not have responsible parties or any funding to address the contamination and can lay vacant for many years.



Many holes were discovered on this underground storage tank, removed from a St. Louis site.

The report is available on the Tanks Web page at dnr.mo.gov/env/hwp/tanks/tanks.htm.

Drinking Water Investigation in Hillsboro

On Jan. 14, 2011 the department received a complaint about petroleum contamination in a drinking water well in Hillsboro. Department environmental emergency response staff were dispatched to investigate the situation. There are three buildings on the property that receive water from the well: a residence, a former hotel and a former restaurant.

With both businesses closed, the inhabitant of the residence was the only person who was using the water at the time. The water from the residence was tested and found to contain benzene levels that exceeded the safe drinking water levels.

There is a public water line adjacent to the property. The department is currently receiving bids and determining the cost effectiveness of connecting all three buildings to the public water.

The department's Division of Geology and Land Survey investigated the source of the contamination in the well and determined a former Clark gas station appears to be the source. At this time there appears to be no responsible party for the release under Underground Storage Tank Law, but further investigation of former owners and operators is still being performed. If no responsible party is found, the department will perform investigation and cleanup as necessary when funding becomes available.

Missouri Department of Natural Resources - Hazardous Waste Program
Tanks Section

Petroleum Storage
Tanks Regulation
March 2011

| Staff Productivity | Jul-10 | Aug-10 | Sep-10 | Oct-10 | Nov-10 | Dec-10 | Jan-11 | Feb-11 | Mar-11 | Apr-11 | May-11 | Jun-11 | TOTAL |
|------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|
| Documents received for review | 183 | 230 | 165 | 178 | 168 | 170 | 191 | 166 | 178 | 0 | 0 | 0 | 1,629 |
| Remediation documents processed | 194 | 151 | 164 | 128 | 207 | 169 | 133 | 122 | 168 | 0 | 0 | 0 | 1,436 |
| Closure reports processed | 14 | 14 | 14 | 15 | 11 | 7 | 10 | 10 | 6 | 0 | 0 | 0 | 101 |
| Closure notices approved | 8 | 2 | 4 | 11 | 7 | 8 | 8 | 13 | 9 | 0 | 0 | 0 | 70 |
| Tank installation notices received | 2 | 2 | 6 | 6 | 6 | 6 | 3 | 3 | 3 | 0 | 0 | 0 | 37 |
| New site registrations | 4 | 2 | 6 | 3 | 0 | 3 | 4 | 2 | 1 | 0 | 0 | 0 | 25 |
| Facility Data | | | | | | | | | | | | | |
| Total active and closed USTs | 40,065 | 40,072 | 40,075 | 40,094 | 40,108 | 40,124 | 40,150 | 40,169 | 40,176 | 0 | 0 | 0 | |
| Total permanently closed USTs | 30,539 | 30,571 | 30,595 | 30,617 | 30,646 | 30,667 | 30,688 | 30,708 | 30,732 | 0 | 0 | 0 | |
| USTs active and temporarily closed | 9,526 | 9,501 | 9,480 | 9,477 | 9,462 | 9,457 | 9,462 | 9,461 | 9,444 | 0 | 0 | 0 | |
| USTs in temporary closure | 918 | 889 | 883 | 890 | 850 | 863 | 866 | 863 | 851 | 0 | 0 | 0 | |
| Total hazardous substance USTs | 394 | 394 | 395 | 395 | 395 | 395 | 395 | 395 | 395 | 0 | 0 | 0 | |
| Facilities with active USTs | 3,606 | 3,592 | 3,587 | 3,586 | 3,581 | 3,578 | 3,580 | 3,579 | 3,576 | 0 | 0 | 0 | |

Closures

| Underground Storage Tanks | Jul-10 | Aug-10 | Sep-10 | Oct-10 | Nov-10 | Dec-10 | Jan-11 | Feb-11 | Mar-11 | Apr-11 | May-11 | Jun-11 | TOTAL | All Yrs |
|--------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|---------|
| Closure Reports Reviewed | 14 | 14 | 14 | 15 | 11 | 7 | 10 | 10 | 6 | 0 | 0 | 0 | 101 | |
| Closure Notices Approved | 8 | 2 | 4 | 11 | 7 | 8 | 8 | 13 | 9 | 0 | 0 | 0 | 70 | |
| Number of Tanks Closed (Closure NFA) | 12 | 61 | 56 | 24 | 59 | 20 | 32 | 40 | 30 | 0 | 0 | 0 | 334 | |

Cleanup

| Underground Storage Tanks | Jul-10 | Aug-10 | Sep-10 | Oct-10 | Nov-10 | Dec-10 | Jan-11 | Feb-11 | Mar-11 | Apr-11 | May-11 | Jun-11 | TOTAL | All Yrs |
|-------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|---------|
| UST release files opened this month | 6 | 10 | 10 | 7 | 5 | 7 | 8 | 2 | 5 | 0 | 0 | 0 | 60 | 6,275 |
| UST cleanups completed this month | 8 | 16 | 21 | 4 | 14 | 6 | 8 | 5 | 22 | 0 | 0 | 0 | 104 | 5,401 |
| Ongoing UST cleanups | 911 | 905 | 900 | 903 | 895 | 895 | 895 | 891 | 874 | 0 | 0 | 0 | | |
| Aboveground Storage Tanks | | | | | | | | | | | | | | |
| AST release files opened this month | 0 | 1 | 1 | 0 | 1 | 0 | 2 | 2 | 1 | 0 | 0 | 0 | 8 | 447 |
| AST cleanups completed this month | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 3 | 0 | 0 | 0 | 8 | 279 |
| Ongoing AST cleanups | 166 | 166 | 167 | 167 | 168 | 167 | 169 | 170 | 168 | 0 | 0 | 0 | | |
| Both UST and AST | | | | | | | | | | | | | | |
| Total release files-both UST & AST | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 4 | 74 |
| Cleanups completed-both UST & AST | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 43 |
| Ongoing cleanups-both UST & AST | 28 | 27 | 27 | 29 | 29 | 31 | 30 | 31 | 31 | 0 | 0 | 0 | | |
| Unknown Source | | | | | | | | | | | | | | |
| Total release files-unknown source | 1 | 1 | 3 | 2 | 6 | 2 | 0 | 0 | 2 | 0 | 0 | 0 | 17 | 297 |
| Cleanups completed-unknown source | 1 | 1 | 5 | 1 | 4 | 3 | 1 | 0 | 1 | 0 | 0 | 0 | 17 | 190 |
| Ongoing cleanups-unknown source | 126 | 122 | 110 | 109 | 110 | 109 | 108 | 108 | 107 | 0 | 0 | 0 | | |
| Documents Processed | 194 | 151 | 164 | 128 | 207 | 169 | 133 | 122 | 168 | 0 | 0 | 0 | 1,436 | |
| *Reopened Remediation Cases | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 78 |

Effective December 2008 tanks with unknown substance will be included in total figures. Some measures are re-calculated each month for all previous months to reflect items added or edited after the end of the previous reporting period.